

B. Appendix B: Bicycle Friendly Community Action Plan

This document provides a Bicycle Friendly Community Action Plan, institutional framework, and collision and safety analysis for Greenville, SC. The process for developing this plan was based on the national Bicycle Friendly Communities (BFC) program of the League of American Bicyclists, the annual national benchmarking report of the Alliance for Biking and Walking, and other national data and standards.

The City of Greenville provided staff and funding support for this project. Greenville Pickens Area Transportation Study (GPATS), South Carolina Department of Transportation, Greenville County, Greenville Spinners, and the dedicated members of the Bicycle Master Plan Advisory Committee provided additional information and resources. The City's leadership allowed for the creation of this document as part of the Bicycle Master Plan. The project's consultant was Alta Planning + Design, with assistance from Darrohn Engineering, Fuss & O'Neill, and DNA Communications. Special thanks are due to all of the community leaders who are helping to transform Greenville into the next level of bicycle friendliness.

Overview

Greenville is experiencing a growing demand for bicycle and pedestrian facilities due to the City's ongoing campaign to create a high-quality bicycling environment and the advancement of the Swamp Rabbit Trail. Walking and bicycling continue to gain popularity as forms of recreation, exercise, and alternative modes of transportation. In 2009, Greenville earned the designation as a Bronze Level Bicycle Friendly Community.

This Action Plan outlines a strategy for the City to implement the plans and policies laid out in the Greenville Bicycle Master Plan (BMP) while targeting the goal of achieving the Silver, Gold and ultimately Platinum Levels of Bicycle Friendly Community (BFC) recognition. The intent of this effort is to make a case for Greenville's existing bicycle friendliness, while establishing an implementation plan for achieving advanced bicycle friendliness in each of the Five E's.¹

The BFC campaign is an awards program that recognizes municipalities that actively support bicycling. The League of American Bicyclists (LAB) administers the BFC program. Bicycle-friendly communities are places where people feel safe and comfortable riding their bikes for fun, fitness, and transportation. A BFC provides safe accommodation for cycling and encourages its residents to bike for transportation and recreation. Communities that are bicycle-friendly are seen as places with a high quality of life. This often translates into increased property values, business growth and increased tourism. With more people bicycling, communities experience reduced traffic demands, improved air quality and greater physical fitness.

There are two steps to applying for Bicycle Friendly Community status.

Complete and submit Part 1 of the Application online. After a review of your general community profile, the League will inform you if you have met some of the basic criteria required.

¹ For the purposes of the Bicycle Friendly Community application, the League of American Bicyclists suggest that the sixth E, which is equity, should be integrated with the Five Es.

Part 2 is a detailed audit of the engineering, education, encouragement, enforcement and evaluation efforts in your municipality. This comprehensive inquiry is designed to yield a holistic picture of a community's work to promote bicycling.²

Greenville has already completed the Bicycle Friendly Community application process in 2008, but expects to submit an updated application to be considered for Silver, Gold, or Platinum BFC status by 2013.

The Five E's

The core of the BFC program is a balanced approach to Engineering, Education, Encouragement, Enforcement and Evaluation, the Five Es. Each of these categories is scored in the application through a series of detailed questions. A community must demonstrate success in each of these areas in order to be considered eligible for an award. Communities with significant achievements in these areas receive awards, which are given at Bronze, Silver, Gold and Platinum levels. There is also an honorable mention category for communities that do not qualify for a higher level of award, but have demonstrated progress towards future success.

Urban, rural and suburban communities throughout the U.S. have participated in the BFC program. There is a growing interest in using the application process as a benchmarking tool for communities to enhance, develop and manage their local programs. Filling out the BFC application is an education in itself, as communities see their strengths and opportunities in each of these categories. The Five E's are discussed in detail below.

ENGINEERING

Communities are asked about what is on the ground; what has been built to promote cycling in the community. For example, questions in this category inquire about the existence and content of a bicycle master plan, the accommodation of cyclists on public roads, and the existence of both well-designed bike lanes and multi-use paths in the community. Reviewers also look at the availability of secure bike parking and the condition and connectivity of both the off-road and on-road network.

EDUCATION

The questions in this category are designed to determine the amount of education there is available for both cyclists and motorists. Education includes teaching cyclists of all ages how to ride safely in any area from multi-use paths to congested city streets as well as teaching motorists how to share the road safely with cyclists. Some things that reviewers look at are the availability of cycling education for adults and children, the number of League Cycling Instructors in the community, and other ways that safety information is distributed to both cyclists and motorists in the community including bike maps, tip sheets, and as a part of driver's education manuals and courses.

ENCOURAGEMENT

This category concentrates on how the community promotes and encourages bicycling. This can be done through Bike Month and Bike to Work Week events as well as producing community bike maps, route finding signage, community bike rides, commuter incentive programs, and having a Safe Routes to School program. In addition, some questions focus on other things that have been built to promote cycling or a

² Source: <http://www.bicyclefriendlycommunity.org>

cycling culture such as off-road facilities, BMX parks, velodromes, and the existence of both road and mountain bicycling clubs.

ENFORCEMENT

The enforcement category contains questions that measure the connections between the cycling and law enforcement communities. Questions address whether or not the law enforcement community has a liaison with the cycling community, if there are bicycle divisions of the law enforcement or public safety communities, if the community uses targeted enforcement to encourage cyclists and motorists to share the road safely, and the existence of bicycling related laws such as those requiring helmets or the use of sidepaths.

EVALUATION & PLANNING

Here the community is judged on the systems that they have in place to evaluate current programs and plans for the future. Questions are focused on measuring the amount of cycling taking place in the community, the crash and fatality rates, and ways that the community works to improve these numbers. Communities are asked about whether or not they have a bike plan, how much of it has been implemented and what the next steps for improvement are.

Each of the 5 E's is presented as a section of this document, with specific recommendations for enhancing efforts. These recommendations can be used to create balanced approaches to improving the community. Over time, as these efforts are implemented, conditions for bicycling will improve. Assessment of local bikeways and programs was developed based on the proposed facilities in the City's Bicycle Master Plan (BMP), which is currently being developed. Where programs are not currently available, opportunities were identified to connect local efforts to regional programs that can compliment local efforts.

Engineering

Recommended Engineering Actions

The City of Greenville is an advocate of supporting alternative methods of transportation to protect the environment, encourage healthy lifestyles, and to preserve the high quality of life Greenville residents enjoy. The City recognizes that bicycling is an appealing form of recreation and a viable mode of transportation, which has significant health, safety, congestion reduction and air quality benefits.

The primary designated bikeway in the City is the Swamp Rabbit Trail – currently a 13.5-mile long paved rail trail that passes through Greenville for 5.4 miles. Some of the main roads accommodate bicycle travel with shoulders, bike lanes, and shared lane markings. The BMP recommends expansion of the paved trail system, particularly focused on routes to school and connecting downtown.

In addition to implementing the recommendations made in the BMP, the development of a comprehensive system of on-street bikeways will be a key to Greenville improving its BFC status. As Greenville moves forward with its plan for bike facilities, it should consider additional striped lanes and shared lane markings, as well as other innovative treatments such as, bike boxes and colored bike lanes. Additional treatments appropriate to lower speed and volume streets such as Bicycle Boulevards are essential for linking the overall network. Bicycle boulevards are low-cost treatments that greatly improve smaller, quieter streets for bicycling, and designate good routes for bicycling throughout the City (Figure B-1).

Greenville has already employed Shared Lane Markings or “Sharrows” on several downtown streets. For roads with limited space available for bike lane striping, this treatment may be used to identify the presence of bicycles. The primary purpose of the Shared Lane Marking is to provide positional guidance to bicyclists on roadways that are too narrow to be striped

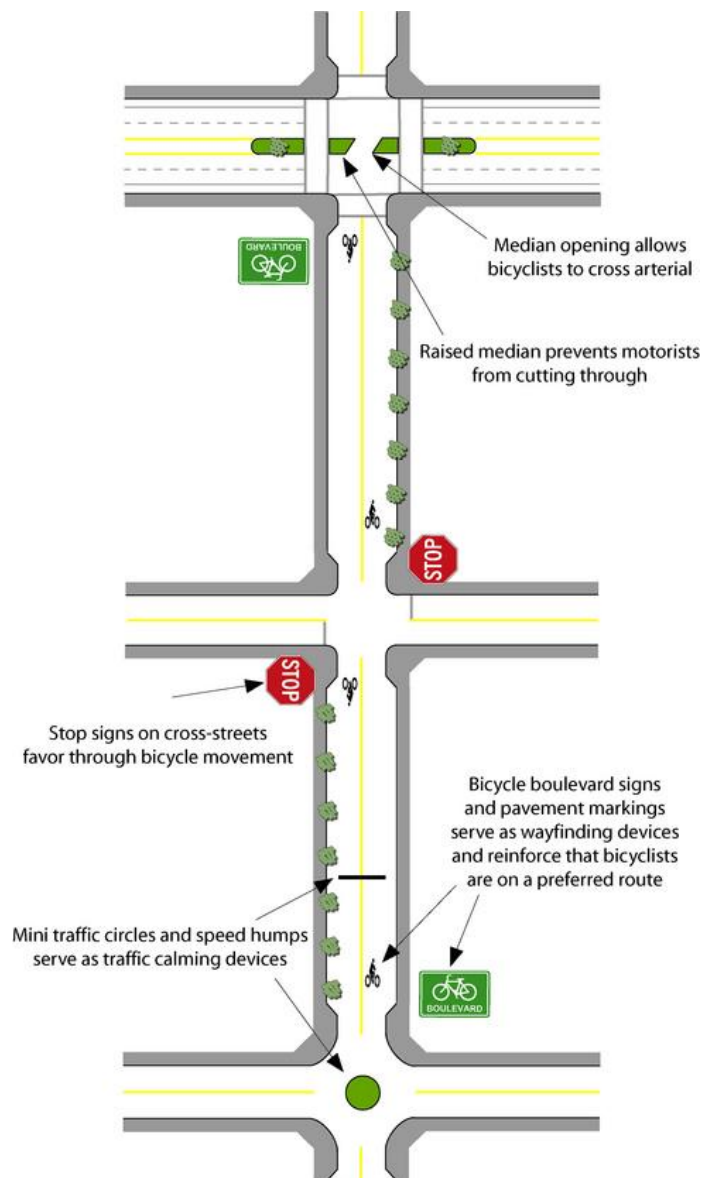


Figure B-1. Bicycle Boulevard treatments calm traffic and provide safe places to bicycle, appealing to tentative or beginning cyclists

with bicycle lanes and to alert motorists of the location a cyclist may occupy on the roadway. Shared Lane Markings are intended to reduce the chance of a cyclist colliding with an open car door of a vehicle parked on-street, parallel to the roadway. Shared Lane Markings are appropriate on bicycle network streets that are too narrow for standard striped bicycle lanes, areas that experience a high level of "wrong-way" riding, along with bicycle network streets that have moderate to high parking turnover, typically commercial areas. Shared Lane Markings are intended for use on roadways without striped bicycle lanes or shoulders.

"Complete Streets" policies are often recommended as an important step toward institutionalizing bicycle-friendly design. Complete streets policies direct transportation planners and engineers to consistently design roadways with all users in mind (e.g., motorists, transit riders, pedestrians, bicyclists, older people, children, and people with disabilities). The City of Greenville passed a resolution in 2006, which clearly states the City's support for and integration of "Complete Streets" in all new City transportation improvement projects. Additionally, the City amended its Engineering Design & Specifications Manual to include bicycle lanes of a minimum five-foot width on all collector and arterial streets.

Bicycle parking facilities will also need to be made available to accommodate increased bicycle use. Public facilities and municipal buildings, and urban streetscape designs are the best place to introduce the installation of bicycle racks. Schools, libraries, transit stations and government buildings should also be evaluated to determine the current bicycle parking available and future needs should be assessed. Bicycle storage can range from a simple and convenient bicycle rack to storage in a bicycle locker or cage that protects against weather, vandalism and theft. Short-term bicycle parking, such as a rack, should be provided for use by visitors and customers at Greenville sites, while long-term bicycle parking, such as a bicycle locker, should be provided for employees at businesses and residents at multi-family developments.

Specific Recommendations for Engineering

Question 1 Written Policy: In 2003, the State of South Carolina became one of the first states in the country to pass a Complete Streets policy. That policy states that:

Bicycling and walking accommodations should be a routine part of the department's planning, design, construction and operating activities, and will be included in the everyday operations of our transportation system, and...that the South Carolina Department of Transportation Commission requires South Carolina counties and municipalities to make bicycling and pedestrian improvements an integral part of their transportation planning and programming where State or Federal Highway funding is utilized.³

Additionally, the State adopted "Engineering Directive Memorandum 22" (EDM 22), which establishes design guidelines for bicycle and pedestrian facilities.

Insuring that Bicycle Friendly Communities do not stop at municipal borders is important to the League of American Bicyclists. On October 5, 2010, Greenville County Council considered a Complete Streets resolution, though it failed to gain the requisite votes. As recommended in the BMP, the City of Greenville should support the County's efforts to accommodate bicyclists. Passage of a County Complete Streets Resolution will communicate to motorists that bicycles belong on the road, making conditions for cyclists

³ http://www.scdot.org/getting/bikeped/bp_milestones.shtml.

both safer and more enjoyable. A County Complete Streets resolution will also open the door for new miles of bike facilities at minimal added cost, while bringing Greenville County in line with state policy.

Question 2 Training: Local officials and engineers should be well versed in the Complete Streets concept as well as the engineering tools available to create non-motorized facilities. Organizations such as the Alliance for Biking and Walking and the Initiative for Bicycle and Pedestrian Innovation have knowledgeable staff that can provide training to local officials and engineers.⁴

Greenville's staff and leadership have engaged in significant training already, ranging from online technical webinars to National Center for Safe Routes to School workshops. This type of field-specific training should continue for each level of City staff member who may have an impact on the City's bicycling environment. Continuing to invite new and different staff members to these training can broaden the base of knowledgeable participants in the bicycle friendly campaign. Additionally, providing regular opportunities for staff, administration, and elected officials to bike as a group along Greenville's bicycle facilities and on streets without bicycle facilities can deepen their understanding of the local bike network and its gaps.

Question 3 Bridges: Bridges are long-term infrastructure projects and since they may not be rehabilitated or reconstructed for a number of decades, it is vitally important to insure that all bridges have access for bicyclists. In Greenville, a significant number of bridges are closed or inaccessible to cyclists (16 out of 42, or 38%). The City should set a goal of ensuring that 100 percent of the bridges that are accessible by bike are bicycle-friendly, meaning that they include paved shoulders, bike lanes, wide curb lanes, or multi-use paths.

Question 4 Parking Ordinance: Greenville's bicycle parking policy establishes a minimum number of bicycle parking spaces required based on a percentage of automobile parking for all new development. The ordinance insures that at least two bicycle parking spaces are provided at all sites. The policy also includes standards for bicycle parking functionality and location.⁵ Recommendations for enhanced bicycle parking standards and requirements are included in Chapter 5 of the Bicycle Master Plan.

Question 5 Bike Racks: Bike racks should be made available at public locations and should be incorporated into new developments. Schools, libraries, transit stations, government buildings, community centers, parks, commercial centers and other significant trip generators and destinations should be the first to receive bike racks. The BMP establishes a goal of encouraging the use of bicycles through the provision of convenient and secure bicycle parking and support facilities. To meet that goal, all Greenville County schools will have adequate and convenient bicycle parking by 2013 and places of work will have incentives to provide changing and shower facilities.

A downtown bicycle parking and changing facility is recommended for the BMP, to provide commuters with secure bicycle parking, as well as showers and clothing storage in one central location. The site location should be selected carefully to ensure that its location is convenient to the key bicycling corridors as outlined in the BMP. The City of Greenville should also continue to provide additional downtown bicycle parking during signature events, along with bike valet service.

Question 6 Transit Access: Bike racks on buses have become an important tool for improving multi-modal connections. GreenLink has installed bike racks on all buses. Increased promotions and training classes are recommended to ensure that transit riders are confident in using the racks. Additionally, GreenLink should

⁴ <http://www.peoplepoweredmovement.org/site/> and <http://www.ibpi.usp.pdx.edu>

⁵ City of Greenville, Parking & Off-street Loading, Sec. 19-6.1.4(I)

prioritize the provision of bicycle parking at all new or renovated transit facilities, such as the construction of park-and-ride lots or the renovation of the downtown hub. The new park-and-ride lots recommended as short-term improvements in the Greenville Transit Vision and Master Plan should equally serve as bike-and-ride lots.

Greenville should also coordinate with GreenLink to promote the use of bicycle bus racks and to better document bike-boardings on buses. Buses with electronic fare-boxes should program a key to record bike-on-bus occurrences. While user surveys are another available method for tracking bikes-on-buses, this strategy is generally used by agencies that require a permit for use of the bike racks and, thus, have contact information for each bike-on-bus user.

In the Bicycle Master Plan survey, 22.6 percent of respondents did not know that GreenLink buses offer a bicycle storage rack. Three-quarters of the survey participants (76%) knew of the racks existence, but had not used a bus rack. This community feedback indicates a need for both increased promotion of the racks, as well as information about convenient bike-to-transit routes.

Question 7 Bike Lane Mileage: Integrating on-street bikeways into repaving and reconstruction projects will offer the opportunity to stripe new bike lanes, and provide innovative solutions such as “bicycle boulevards” and “road diets” that can create needed space for bicycling within existing urban streets. The BMP establishes a draft goal of having a bikeway network link within a quarter mile of every city resident by 2015. Accommodating bicycles on major streets in Greenville will require coordination with the South Carolina Department of Transportation (SCDOT), as described in Question 8, following.

Question 8 Arterial Access: The top-level BFC communities report that more than half of their arterial streets have bike lanes, as they provide important connections to other routes and may be the only access to many retail and commercial destinations. Although several of Greenville’s arterial roads already accommodate bicycling (13 percent in 2009), more are needed to significantly improve bicyclist mobility. The BMP establishes a goal of providing bicycle facilities on all major thoroughfares. The majority of arterial street bike lane recommendations require collaboration with SCDOT. Arterials should incorporate striped shoulders at a minimum and bike lanes if possible, and this data should be tracked as a performance benchmark as improvements are made.

Question 9 Bike Route Signage: Signing bike routes for both transportation and recreation purposes is a cost effective way to designate desired routes for bicyclists. The routes should include “Share the Road” signage and can also include MUTCD approved wayfinding signs with local branding. Use of a consistent image is important to ensuring the user-friendliness of the wayfinding system. Figure B-2 provides one example of a bicycle stencil used as a directional pavement marking.

As recommended in the BMP goals, new bicycle boulevards will be an important component of the overall bike route network. Additionally, Greenville’s existing Urban Connector Bicycle Routes should be maintained and expanded as part of the total bike route mileage. The BMP also calls for a bicycle route wayfinding signage program, which will enhance and

Figure B-2. NYC Bikestamp



facilitate use of bike routes.

Question 10 Maintenance: Bicycles are more susceptible to roadway imperfections and debris than most other road users. Bike lanes and shoulders commonly collect much of the road debris that accumulates during the course of the year and need to be kept clean to insure safety and reduce the risk of punctures. Small potholes and cracks, which would otherwise not affect motor vehicles can pose significant hazards to bicyclists and should be repaired.

Greenville's weekly street sweeping is important to the functionality of the overall bike network, but a formalized maintenance program for existing and future bikeways will be critical. On-line venues and other formalized methods for reporting maintenance concerns is equally important and should be heavily promoted to the bicycling community.

Question 11 Intersections: Intersections are typically the most likely crash location for motorized and non-motorized users alike. There are a number of innovative treatments such as bicycle boxes and bicycle-specific traffic lights, which can significantly improve the visibility and safety of cyclists at intersections. Greenville has implemented bicycle signal detection, another innovative treatment, at select intersections. Greenville should increase the number of intersections that receive that treatment and has set the goal of marking twenty bicycle loop detection symbols each year. Through bicycle crash data and bicycle count data, Greenville can determine which intersections warrant further treatment such as bike boxes or bicycle-specific traffic lights based on safety needs and evidenced demand.

Question 12 Hard Surface Trails: A former rail bed that has been converted into a paved multi-use trail, the Swamp Rabbit Trail is the predominant bicycling facility in Greenville. The more than 5 miles that lie within Greenville city limits could serve as a spine to connect future bicycle facilities.

Question 13 Soft Surface Trails: Cleveland Park currently provides popular mountain biking trails near the Central Business District, namely the Troop 19 Trail, Dog Park Trail, and Eagle Park Trail. The link between those trails and the Swamp Rabbit Trail is important and should be maintained and expanded. Timmons Park offers a 1.5-mile hike and bike trail along a small creek and the relatively new East North Street bike facilities have improved access to that trail. Additionally, a signed bike route connects downtown to the soft surface trails of Paris Mountain State Park, which is beyond the City's limits. Such connectivity should be highlighted and promoted through maps and wayfinding.

Question 14 Open Space: Greenville has important public lands that are accessible via bicycle routes, providing transportation options to recreational opportunities. Cleveland Park is a central amenity in the City, which is connected to the Swamp Rabbit Trail and the E. Washington Avenue bicycle route.

Question 15 Trail Maintenance: Volunteer stewardship of the Swamp Rabbit should be a significant component to Greenville's BFC program. As Greenville develops additional miles of off-street trails, the City should consider formalizing a trail maintenance strategy, potentially establishing a maintenance endowment. This is a common practice for land trusts, which often include an endowment contribution as part of the acceptance of a new parcel or easement.

Question 16 Employer Facilities: Secure bike parking, changing and shower facilities provided by employers allow bicycle commuters to ride to work without concern of bike theft or personal hygiene. The recommended secure bicycle parking facility in the CBD would serve commuters who work in downtown, but other large employers should be encouraged to provide secure bicycle parking to employees. Local codes and

ordinances can specify that employers of a certain size must include bike parking and changing facilities at the place of work.

The League of American Bicyclists has recently initiated a Bicycle Friendly Business program.⁶ Greenville has four businesses designated as Bicycle Friendly Businesses. Two local offices, Fluor Engineering Construction (2009) and Upstate Forever (2010), earned Bronze Level designations. The Great Escape Bicycle Store earned an Honorable Mention in 2009. In 2010, TTR Bikes claimed the highest level of Bicycle Friendly Business – earning Platinum status.

Greenville should not only tout the national recognition earned by these businesses, but also establish a program for incentivizing other businesses to follow this path. The City, the Greenville Chamber of Commerce, or another economic development agency (such as the Upstate Alliance) should assist each business that earns this designation in gaining media exposure and local and regional recognition for this accomplishment.

Question 17 Other/ Recreational Cycling: Low traffic rural roads and touring routes help support recreational and touring cyclists. The Greenville Spinners Cycling Club organizes numerous recreational and road rides, which they make available for other riders through their online presence, listserv, MapMyRide.com, and other outreach. The City of Greenville should take an organized approach to promoting bicycle tourism through its website, through the Convention & Visitors Bureau, and through other outreach avenues. The economic impacts of cycling in the City should be calculated and touted – with particular attention given to the annual U.S. Pro Cycling Championship. This could be the role of City Special Events staff or tracked in partnership with the Convention & Visitors Bureau.

Connections to Regional Programs

Bikeway projects identified in the BMP, which would require coordination with the South Carolina Department of Transportation (SCDOT), will be noted in this section.

Education

Recommended Education Actions

The collaborative effort between the City of Greenville, the Greenville Spinners Cycling Club, and community volunteers, known as Bikeville, is a key element of educating motorists and bicyclists to share the road. Educating motorists that bicyclists have a right to the road and need a minimum amount of operating space is critical to improving road safety and reducing the number of car-bike collisions. Share the Road signs introduce the message at the road level, but that message must be reinforced to effectively educate the motoring and cycling public. The “Share the Road” theme should be a mandatory component of all drivers’ education classes and the concept needs to be continually enforced on the road by law enforcement officers.

It is equally important to educate bicyclists on vehicle and traffic laws to insure that they are riding as safely as possible. Members of Greenville’s bike clubs could become trained in the bicycle education curriculum, so that they are eligible to attend the League Cycling Instructor (LCI) program, which will then allow them to teach classes on their own. Currently, six LCIs are located in Greenville and more than twenty live in South Carolina. The presence of multiple LCIs teaching classes in the area is an important tool to disseminate basic

⁶ More information is available from the website: www.bikeleague.org/programs/bicyclefriendlybusiness/index.php.

concepts of safe cycling to the local population. This program could be coordinated throughout the region through a partnership with Upstate cycling clubs and other organizations. The key to success will be reaching a large percentage of motorists and cyclists throughout the community. The City should make a concerted effort to educate motor vehicle drivers as well as bicyclists to safely share the road. This message is vital to increasing actual and perceived safety as more bicyclists take to the road for utilitarian and recreational cycling.

A Bicycle Advisory Committee should be established to coordinate with a certified LCI to offer a variety of training courses to the community. The existing “Road Relations Committee” may serve as an important support network for certified LCIs and the City, as well. Courses could include Traffic Skills 101 and 102, Commuting, Motorist Education, and Kids I and II courses. Motorist Education training would be appropriate for professional drivers, such as school bus drivers, transit bus drivers, taxi drivers, and delivery drivers. Special effort should be made to provide training opportunities for traditionally underserved populations. Additionally, coordination should occur with the Sheriff’s Office and the School Board to evaluate the feasibility for in-school and after school bicycle safety education courses for children. These training courses could also be incorporated into a diversion program that would allow offending cyclists to take the course in lieu of paying a traffic fine.

Safe Routes to School programs also present an opportunity to bring the safe walking and bicycling curriculum back into elementary and middle schools. The National Center for Safe Routes to School, SCDOT and SafeKids offer resources to supplement bicycle rodeos and other education outreach programs.⁷

Specific Recommendations for Education

Question 1 Educating Motorists: Educating motorists on the “Share the Road” message is an important aspect of the education component with the ultimate goal of keeping bicyclists safe on the roadways. SCDOT promotes sharing the road through a specialty license plate program. Additionally, SafeKids Upstate and Hincapie Sportswear jointly produced bicycle safety public service announcements (PSAs) that have aired on Greenville’s access channel. The continuation of these PSAs, as well as any new segments that are produced, could contribute towards a broader citywide safety campaign.

Programs such as the NY Bicycling Coalition’s “Sharing the Road Safely” focus on training the trainers by working with the AAA and drivers’ education instructors.⁸ Another excellent example is the “Share the Road” bus wrap media campaign in Des Moines, Iowa, (Figure B-3) where the local transit agency plays a lead role in getting the word out to the general public.⁹ Other municipal agencies can help to spread the message by distributing “Share the Road” material and including the message on municipal vehicles.

Implementation of a “Share the Road” awareness campaign in Greenville can be accomplished through:

Variable message boards can be placed at key locations such as near schools, major traffic corridors, or the Swamp Rabbit Trail. The City’s Traffic Engineering Department or County Sheriff’s Office may be able to provide access to these signs, which are a highly effective way to bring attention to motorists that bicycles are sharing the road.

⁷ National Center for SR2S: www.saferoutesinfo.org; SCDOT: <http://www.scdot.org/community/saferoutes.shtml>; Upstate SafeKids: http://www.safekidsupstate.org/at_play.php#bike

⁸ www.nybc.net/site/index.php?page_id=15

⁹ <http://www.bikeiowa.com/asp/hotnews/newsdisplay.asp?NewsID=2056>

The City could include information about bicycle awareness in utility bill mailings.

Partner with a local camera production company to create an ongoing television program that teaches a different aspect of bicycling safety each month. Spartanburg, S.C.'s show "Cycle Spartanburg" provides one example of this.¹⁰

Figure B-3. Des Moines, Iowa used bus wraps to promote a "Share the Road" message.



Question 2 Other Adult Education: The League of American Bicyclists has developed adult cycling skills training courses called "StreetSmarts Cycling" where participants can learn how to safely operate a bicycle under various conditions and learn about bicyclists' rights and responsibilities.¹¹ In order to reinforce the "Share the Road" message, informative pamphlets can be distributed through public agencies and outreach can be accomplished through volunteers and other model programs. Safe Routes for Seniors programs have proven effective about educating the older walking and bicycling crowd.¹²

Question 3 Training Children: Safe Routes to School (SR2S) is a national and international movement to create safe, convenient, and fun opportunities for children to bicycle and walk to school. SR2S can include a variety of multi-disciplinary programs aimed at promoting walking and bicycling to school and improving traffic safety around school areas through education, incentives, law enforcement and engineering measures. SR2S Programs typically involve partnerships among municipalities, school districts, community and parent volunteers, and law enforcement agencies. The primary goals of SR2S include improved safety for children, establishing good health and fitness habits for children and decreased traffic and air pollution.¹³

One objective of the BMP is to implement a bike safety education curriculum for elementary, middle, and high schools.

¹⁰ Cycle Spartanburg videos can be viewed at: <http://www.youtube.com/user/ActiveLivingSC>

¹¹ <http://www.bikexpert.com/streetsmarts/usa/index.htm>

¹² www.transalt.org/campaigns/pedestrian/safeseniors

¹³ www.saferoutesinfo.org

Question 4 Other Child Education: Greenville has a history of hosting bike rodeos and helmet fittings for local children. The Greenville Spinners Cycling Club and Bikeville are strong partners in these events. Bicycle rodeos are the most common type of traffic safety training oriented towards children. The rodeos can also be used to distribute free helmets and insure that they are fitted correctly. The John Williams book on bike rodeos is a highly recommended resource.¹⁴

Question 5 Public Distribution: Distribution of safety materials to the public can be accomplished through license renewal mailings, utility bills and local media. Other communities have issued public service announcements (PSAs), created websites and initiated telephone hotlines to make the education material available. The Share the Road safety message could be included in an area-wide map. Additional information on cycling issues can be included in the community's newsletter and/or website. The Bikeville e-newsletter has already established regular communication with the public regarding trails, greenways, and Bikeville related activities. This outlet should be utilized as a tool for safety information, as well.

Question 6 Bicycling Ambassadors: Bicycling ambassador programs have become a popular method for encouraging bicycling while teaching safe and effective bicycling procedures. The City of Chicago has an effective and well-established bicycle ambassador program.¹⁵ The Greenville Spinners Cycling Club and Bikeville volunteers already provide time, energy, and expertise for many local bicycling activities, and are natural partners for an ambassador program.

Question 7 LCIs: Currently, six LCIs are located in Greenville and more than twenty live in South Carolina. League Cycling Instructors are trained in the League of American Bicyclist's bicycle education curriculum and are certified to teach bike education classes to participants of all ages.¹⁶ Expansion of the local LCI effort in terms of the number of instructors and the number of people trained will be important benchmarks for BFC success.

¹⁴ www.activelivingresources.org/simpleprojects.php

¹⁵ www.bicyclingambassadors.org

¹⁶ Additional information is available at: www.bikeleague.org/programs/education/.

Encouragement

Recommended Encouragement Actions

Greenville hosts many large and small scale community events that have a wide draw from throughout the region, including Fall for Greenville, Artisphere, Downtown Farmers Market, Main Street Jazz, and the nationally recognized U.S. Pro Cycling Championship. The City has also received numerous awards and recognitions, including the “Bicycle Friendly Community” designation by the League of American Bicyclists (2009), the “Great Places in America” award from the American Planning Association (2009), the “Great American Main Street” award from the National Trust for Historic Preservation (2003, 2009), “Tree City USA” by the National Arbor Day Foundation, “City at Your Feet” award by American Walks (2003) and more. Establishing more formalized encouragement of bicycling, along with a well-connected bicycle facility network, would promote Greenville as a nationwide destination for cycling and appealing place to live.

Specific Recommendations for Encouragement

Question 1 & 2 Bike Month (Numbers Reached): The “Drive Less. Live More” campaign can encourage residents to seek alternative ways of getting around, including bicycling. This effort can be linked to National Bike Month and Greenville can connect existing and new events into a month long series of events to promote bicycling. A proclamation from the Mayor is a key element to this effort. The League of American Bicyclist has material available to help develop a series of events.

Question 3 & 4 Bike to Work Day (Numbers Reached): Greenville can expand its annual Bike to Work Day events, with staging areas set up around town supplying food, coffee and maintenance facilities to encourage commuters and prizes are offered to those who participate. Large employers can provide additional incentives and can compete with one another to see who has the most bike commuters for the day and the week. The City could set a goal of getting 1,000 people to participate, and tracking these numbers each year will gauge long-term success.

Question 5 Bike Tour: Bicycle tours have become popular fundraisers and are a good way to show off the local history and scenic natural resources. Cycle South Carolina is a great model for this type of event – a week-long annual event, the ride changes routes to encourage riders to explore different parts of South Carolina.¹⁷ The City could work with the Greenville Spinners Cycling Club to sponsor an organized ride event – a Tour of Greenville or a Mayoral Ride could be part of Greenville’s cycling calendar.

Question 6 Clubs: Greenville has both road and mountain bike clubs including the Greenville Spinners Cycling Club and the Southern Off-road Bicycle Association (SORBA). Increasing the number of memberships in these groups and participation in their events is an indicator of growth as a Bicycle Friendly Community.

Question 7 Retailers: Greenville’s business community should work to retain and support the City’s bicycle retailers. Independent bicycle shops are trusted retailers of quality built bicycles and also provide much needed knowledge and accessories to the local cycling population. Currently, there are several independently owned bicycle shops that provide an important service to the local biking (and soon-to-be biking) community while also contributing to the area’s economic development. Hincapie Sportswear is a multimillion-dollar

¹⁷ <http://www.cyclesouthcarolina.org/>

company employing sales representative throughout the United States and is headquartered in downtown Greenville. From 2003 to 2010, Hincapie increased its local Greenville staff by 87.5%. The company grew at a rate of 30 to 50% each year since 2003. Hincapie Sportswear and the many local bicycle and bicycling gear retailers are capitalizing on the growth of the bicycle industry over the last decade. The Greenville Convention and Visitors Bureau (CVB) and the Greenville Chamber of Commerce should consider fund the development of an Economic Impact Study of Greenville's growing bicycle industry.

Question 8 BMX: BMX (bicycle motor cross) is a popular activity with younger riders who may like to ride dirt tracks or hone their bicycle handling skills. Steps can be taken toward encouraging BMX in Greenville or encouraging use of BMX facilities within the broader region.

Other communities have built urban skill parks, flow parks, and other facilities that provide a fun and convenient recreation opportunity. Such facilities focus on skill development and bicycle handling rather than bike riding mileage. One example is the Colonnade Park under Interstate 5 in Seattle.¹⁸

Question 9 National Mountain Bike Patrol (NMBP): IMBA's National Mountain Bike Patrol program organizes and supports more than 60 volunteer bike patrol groups throughout the United States and the world. The NMBP consists of dedicated volunteers partnering with land managers, landowners and emergency personnel, to assist, educate and inform all trail users in order to enhance their recreational experience.¹⁹

Question 10 Bike Rentals: Bike rentals are often provided through local bike retailers although independent rental businesses and bike share operations are often feasible in areas with good access to trails and other recreational facilities. A well-built multi-use trail often encourages the growth of bicycle rental facilities so that travelers and locals alike can take advantage of the facilities even if they don't own a bike.

As recommended in the draft BMP goals, the City should examine the feasibility of implementing a BikeShare program. BikeShare programs offer short-term bicycle rentals via un-manned kiosks and have been employed in major cities around the world.

Question 11 Safe Routes to School: The Greenville County School District currently has no formal policy regarding bicycling to school. The goal of the national Safe Routes to School program is to get more kids walking and biking to school more often. The program provides much needed funds to improve the infrastructure within a two mile radius around elementary and middle schools and also offers other means to educate and encourage school age children to safely walk and bike to school²⁰ and SCDOT's SR2S program are important resources.

Augusta Circle Elementary is the only school within the City of Greenville to receive a Safe Routes to School grant. The BMP establishes the goals of ensuring that every Greenville County school has a bicycle rack by 2013, that public schools are connected to bike facilities, and that safe routes to school and improved health are available to all children.

Question 12 Youth Recreation: Youth cycling opportunities can be provided by after school programs, cycling clubs and other local organizations. The Greenville Spinners Cycling Club or SORBA should initiate a

¹⁸ <http://evergreenmtb.org/colonnade/>

¹⁹ www.imba.com/nmbp/

²⁰ www.SafeRoutesInfo.org

BMX program that offers young riders the chance to cycle with other riders and teaches important safety and bike handling information.²¹ For teenagers, a junior competitive cycling team should be established to teach handling and safety skills specific to road biking.

Question 13 Street Map: A good street map provides riders with an illustrated network of recommended routes and available facilities in the city. The maps should be updated on a regular basis as more facilities come online and can also be coded to indicate “level of service” data such as posted speed limits and average daily traffic. Most high-level Bicycle Friendly Communities publish free bicycle maps. More information about bicycle maps and guides can be found in Chapter 5, Non-Infrastructure Recommendations, of the Bicycle Master Plan.

The City should make available the BMP’s proposed Bicycle User Map in both printed and electronic format. The maps could be available on the City’s website for download. This map serves two main purposes:

- Identifies the suitability of roadways for bicycling based on speed limits, traffic volumes, network connectivity, popular destinations and trip generators.

- Provides bicycle resources and safety information.

Question 14 Trail Map: Currently, the only publicly available map of bicycle facilities in Greenville is limited to online web pages. Information about bicycle connections or suggested routes is not available. As recommended in the BMP, a regional bicycling map could be developed in coordination with Greenville County Recreation District, and it should include information about on-road cycling, local retailers and safety information.

Enforcement

Recommended Enforcement Actions

Enforcement is an essential part of the five “Es” but it is often the most overlooked. Together, Education, Enforcement and Engineering set the stage for bicycle-friendly communities. Without Enforcement to reinforce the message and to insure that facilities are kept safe, the overall results will be diminished and fewer people will choose to walk or bicycle.

The ‘Share the Road’ programs mentioned previously in the Education section can be geared to the law enforcement community and could be taught by the officers themselves once they become well-versed in the ‘Share the Road’ message. A comprehensive education campaign for law enforcement officers is something that could be implemented on a regional level with members from each bicycle unit around Greenville City and County participating in the training.

Specific Recommendations for Enforcement

Question 1 & 2 Police Awareness/Officer Training: There may be an opportunity to establish a liaison officer to work with the local bicycling community – Greenville Spinners Cycling Club and others – to ensure that the ‘Share the Road’ concepts are implemented in Greenville. Law enforcement agencies in Massachusetts

²¹ A good example is the Recycle-a-Bicycle program for New York City public schools and after-school programs: www.recycleabicycle.org

offer programs to ensure that police officers are trained in bicycle-related law enforcement, and the MassBike advocacy group has published a Law Officer's Guide to Bicycle Safety online.²²

As recommended by LAB, the City of Greenville should continue to ensure that police officers have general knowledge regarding traffic law as it applies to bicyclists by extending one hour bicycle traffic law training to all officers. The city should also consider hosting an Enforcement for Bicycle seminar.

Question 3 Targeted Enforcement: Motorists that threaten the safety of non-motorized users should be warned and cited for dangerous behavior. The same method should be employed for bicyclists that break the law or are riding illegally. Chapter 5 of the Bicycle Master Plan provides several recommendations related to increased enforcement and targeted enforcement.

Question 4 Police on Bikes: The City of Greenville's bicycle patrol utilizes police bikes in place of driving. In 2009, the City employed eight bicycle patrol law enforcement officers. The Greenville Police Department should consider expanding the roles of these officers as bicycle ambassadors to provide community education and outreach.

The numbers of officers trained, number of bikes available and routinely used on patrol, and breadth of the officers' territory are important benchmarks.

Question 5 Mandatory Helmet: Most municipalities have the freedom to pass local laws, which dictate mandatory helmet usage. Most of the mandatory helmet laws around the country are geared to children 14 and under, although there are some municipalities, which include riders of all ages.

Question 6 Mandatory Sidepath: Mandatory sidepath laws can dictate that if there is a usable path adjacent to the roadway, that path must be used instead of the road. These types of laws should be discouraged as they limit the options of the cycling public and generally do not address specific user needs. Greenville does not have a mandatory sidepath law.

South Carolina law previously held that bicyclists must utilize a side path if such a facility was provided. Since the passage of the Bicycle Law Reform Bill (H3006) in 2008, cyclists are required to ride as near to the right side of the road as is practicable and may choose to ride in a roadway shoulder, but is not required to do so. The law also states that "bicycles are required to ride in the bicycle lane except when necessary to pass another person riding a bicycle or to avoid an obstruction in the bicycle lane. However, bicyclists may ride on the roadway when there is only an adjacent recreational bicycle path available instead of a bicycle lane."²³

²² <http://www.massbike.org/projectsnew/law-officer-training/>

²³ <http://www.pccsc.net/bikelaws.php>

Evaluation

Recommended Evaluation Actions

Conflicts between vehicles and bicyclists are not uncommon to the State of South Carolina, including the City of Greenville. Collecting use, facility and safety data is essential to being a BFC. This data should be readily available and well monitored on the city or county level. Locations where multiple crashes have taken place warrant greater safety measures. The city should also implement specific targets for mode share and safety, similar to those included in the USDOT National Bicycling and Walking Study, which called for doubling the amount of travel by walking and bicycling and making those modes 10 percent safer.²⁴ One of the best actions that the City of Greenville could take to improve the Evaluation of bicycling is to implement an annual count of bicycle traffic at a few key locations. The National Bicycle and Pedestrian Documentation Project provides the method and resources to successfully implement bicycle counts.²⁵

Specific Recommendations for Evaluation

Question 1 Number of Trips by Bike: US Census 2000 data are available for Greenville, while the more recent American Communities Survey (ACS) 2009 one-year estimates are available for Greenville County. The ACS estimates that 0.1 percent of Greenville County residents commute by bicycle (margin of error is 0.1 percent), although this number does not account for students and people who travel by multiple modes. The 2000 Census data, which is also limited in its scope, shows that one percent of Greenville County residents and 1.2 percent of city residents commute to work by “other means” (bicycle). These data sources show 10-year census trends, and provide a critical benchmark for becoming a BFC. As recommended in the BMP, the City is encouraged to track these numbers and to participate in the National Bicycle and Pedestrian Documentation Project. Greenville has set a goal of increasing bicycle mode share to a level comparable to Silver Level Bicycle Friendly Communities by the year 2013. For comparison, the average bicycle mode share for a Silver-level community that is not a college-town is 2.65%. A handful of Silver-level communities have a mode share near 1.0%. The average bicycle mode share for each level of Bicycle Friendly Community is shown in Table 1.

Table 1. Average bicycle mode share among designated Bicycle Friendly Communities

Award Level	Average Bicycle Mode Share
Platinum	9.71%
Gold	5.20%
Silver	2.82%
Bronze	1.10%

²⁴ Available at: <http://www.fhwa.dot.gov/environment/bikeped/study/index.htm>

²⁵ <http://bikepeddocumentation.org/>

Question 2 Fatalities: Bicycling fatalities should be examined on a regular basis to determine if there are specific locations, which are poorly designed and may result in an unnecessarily dangerous situation for cyclists. A top-level BFC will be able to document and actively pursue a reduction in fatalities over the most recent 5 year period. A related and perhaps more useful measure would be for the City to track the rate of crashes involving bicycles in relation to the numbers of people cycling locally.

Question 3 Crashes: Bicycle crash data should be tracked and cross-referenced between sources. Since many bicycle crashes go unreported, it is often difficult to accurately analyze crash data and the causes of the crashes. Hospital records should be checked against police records and the police should be encouraged to fill out collision reports even if the incident did not result in a serious injury or fatality.

Question 4 Reduction Plan: With accurate crash data, the community should develop a safety and collision reduction plan, which targets key intersections and locations and makes resources available to improve them on an annual basis.

Question 5 Public Comment: Through the Greenville Cares hotline (864-232-CARE), the City of Greenville fields service requests for any service that the City currently provides. The City should continue to support this hotline resource and should promote the service as a specific tool for bicycling-related requests.²⁶

Question 6 Master Plan: The BMP addresses bicycle travel for both recreational and transportation purposes, and provides recommendations for improving access to outdoor resources and recreational facilities by building a network of off-road and on-road bicycle and pedestrian facilities. The BMP also seeks to provide a safe, integrated network of bicycle facilities in the City that links to Greenville County and beyond. The plan will aid timely implementation of recommended projects and programs.

Question 7 Trail Plan: In 2008, the City of Greenville completed a Trails and Greenways Master Plan. This comprehensive document recognizes the importance of the Swamp Rabbit Trail as the central spine of the City's trail network. As a result of this master plan's recommendation, the City hired a Trails & Greenways Coordinator in late 2008. While the Swamp Rabbit Trail should remain a priority, the City should pursue expansion of the trail system beyond the central spine. A "hub and spoke" approach to expanding the network would increase connectivity for a broader geographic area of the City. Improving access to the Swamp Rabbit Trail and spur trails, enhancing wayfinding signage, and increasing amenities on the trail network should be priorities for the City.

Question 8 Integrated Network: The overall goal of any well-designed bicycle master plan or trail plan is to create an integrated network of on and off-road facilities. Bicyclists should be able to seamlessly transition from on and off-road facilities and all major destinations should be accessible by bike. While the BMP identified key corridors that would benefit cyclists in Greenville, a comprehensive network should be developed to connect destinations and trip origins and provide access to schools, shopping centers, civic centers, libraries, and parks.

Question 9 Priority Plan: The BMP's prioritization matrix will establish a hierarchy of projects and programs to insure the timely implementation of available facilities and the distribution of educational material to promote safety on those facilities. Priorities for Greenville are included in Chapter 7 of the Bicycle Master Plan.

²⁶ Online Resource: http://www.greenvillesc.gov/PublicInfo_Events/GreenvilleCares.aspx

As recommended in the BMP, City staff should complete a brief annual evaluation of the implementation of the BMP. This evaluation should be provided to the public and elected officials. The BMP should also be updated on a routine basis not exceeding ten years.

Question 10 Improvements: A Spot Improvement Program should be created to fund small-scale projects, which will improve the region's bicycle and pedestrian travel environments through "spot improvements" to the transportation system. The funds can be used to close gaps in the system or to address safety and maintenance concerns in specific areas.²⁷

²⁷ An example program can be found at: www.cdtcmpo.org/spot/info08.pdf

Next Steps

This document is the “bike map” for a bicycle-friendly community. Organizing an active bicycle and pedestrian advisory committee, developing the community’s partnerships and implementing the City of Greenville Bicycle Master Plan are important next steps. By focusing on achievable actions in the short term, it will be possible to create success as the longer-term vision develops. With the enthusiasm, creativity, and leadership that developed this Action Plan, there is a great future for bicycling in Greenville.

Actions:

This section will be updated based on final recommendations of Bicycle Master Plan.

Action Plan Timeline:

With the tasks identified in this document as a guideline, the following timeline is suggested for implementing the Greenville Bicycle Friendly Community Action Plan:

August 2011:	Adopt Bicycle Master Plan
Early Fall 2011:	Coordinate and host annual bicycle count
January 2012:	Review priority bicycle facility recommendations of the Bicycle Master Plan and develop a strategy for implementing new facilities during 2012 calendar year.
May 2012:	Promote the Bicycle Master Plan during Bike Month activities
August 2012:	In coordination with start of school year and fall weather, launch new programs based on Bicycle Master Plan and Bicycle Friendly Community Action Plan recommendations.
Early Fall 2012:	Coordinate and host annual bicycle count
January 2013:	Review priority bicycle facility recommendations of the Bicycle Master Plan and develop a strategy for implementing new facilities during 2013 calendar year.
March 2013:	Assess progress by reviewing Bicycle Friendly Community application and Bicycle Friendly Community Action Plan and citing changes to the answers for each application question.
May 2013:	Promote the Bicycle Master Plan during Bike Month activities, highlighting, in particular, successful projects implemented since the adoption of the Bicycle Master Plan.
July 2013:	Apply for a higher level of Bicycle Friendly Community designation (August deadline)